KUZ'MIN, P.P.

Method of the control (normal) snow survey. Trudy TbilNIGMI no.13: 39-47 '63. (MIRA 18:8)

1. Gosudarstvennyy gidrologicheskiy institut.

KUZ'MIN,P.T.

New production techniques of cast anchor chains. Lit. proizv. no.6:27-28 Je '55. (MLRA 8:8)
(Die casting) (Chains)

KUZ'MIN, P.V., inzhener.

Explosion in an explosionproof electric meter. Energetik 4 no.9: 17 S '56. (Electric motors) (MLRA 9:10)

AUTHOR: Kuz'min, P.V., Engineer SOV-91-58-9-23/29

TITLE: Electrocution from a Telfer Press-button Control Set (Porazheniye tokom ot knopochnoy stantsii tel'fera)

PERIODICAL: Energetik, 1958, Nr 9, pp 31-33 (USSR)

ABSTRACT: The author describes a case where a worker was electrocuted while operating the suspended press-button control set of a telfer line. He traces the source of the trouble in the set and lists the various safety precautions introduced and changes made to the apparatus in the plant as a result of this accident. There are 2 photos.

1. Electrical equipment--Hazards 2. Accidents--Counter measures

Card 1/1

KAZANSKIY, Nikolay Vasil'yevich; KUZNETSOV, Leonid Filippovich; KUZ'MIN, P.V., red.

[Masonry and furnace work] Kamennye i pechnye raboty. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1963. 38 p. (MIRA 17:6)

KAZANSKIY, Nikolay Vasil'yevich; SIVITSKIY, Konstantin Pavlovich; KUZ'MIN, P.V., red.

[Woodworking operations; carpentry and joinery] Derevoobdelochnye raboty; plotnichnye i stoliarnye. Moskva, Izd-vo lit-ry po stroit. "Stroiizdat," 1964. 49 p. (MIRA 17:5)

KUZ'MIN, P.V., inzh.

Experience in the operation of synchronous motors with simplified start networks. Prom. energ. 19 no.8:18-20 Ag '64. (MIRA 17:11)

KUZ'MIN, R.

Liquified gas for automotive transportation. Av.transp. 40 no.7:54 Jl '62. (MIRA 15:8)
(Liquified petroleum gas)

KUZ'MIN, P.V., inzh.

Start of synchronous motors with close coupled exciters. Prom. energ. 18 no.11:8-9 N '63. (MIRA 16:12)

IBRAGIMOV, N.B.; KUZ'MIN, E.N.

Isomeric chemical shifts in alloys of tin with d-metals. Dokl. AN SSSR 165 no.3:518-519 N '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet. Submitted July 22, 1965.

L 13130-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACC NR: AP6000189 SOURCE CODE: UR/0056/65/049/005/1389/1393

AUTHOR: Ibraimov, N. S.; Kuz'min, R. N.; Zhdanov, G. S. 49

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet) B

TITLE: The Mossbauer effect in compounds of the fluorite type ($IrSn_2$ and $PtSn_2$)

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 5, 1965, 1389-1393

TOPIC TAGS: Mossbauer effect, platinum compound, iridium compound, temperature dependence, resonance absorption, Gamma ray absorption, absorption probability

ABSTRACT: This is a continuation of earlier work by one of the authors (Kuz'min, with V. A. Bryukhanov and N. N. Delyagin, ZhETF v. 46, 137, 1964) on the Mossbauer line and its shape. The purpose of the present investigation was to study, for a given type of crystal lattice, the effect of changing the surroundings of the Mossbauer atom, the mass of the atom, and the structure of the d-band. The $IrSn_2$ and $PtSn_2$ compounds were obtained by melting the components in quartz ampoules and subsequent annealing. The absorbers were prepared by pressing powders of the compounds in mixture with beryllium oxide. The resonance absorption of 23.8-kev γ quanta by Sn^{119} nuclei was investigated in the temperature range from 77 to 600K.

Card 1/2

L 13130-66

ACC NR: AP6000189

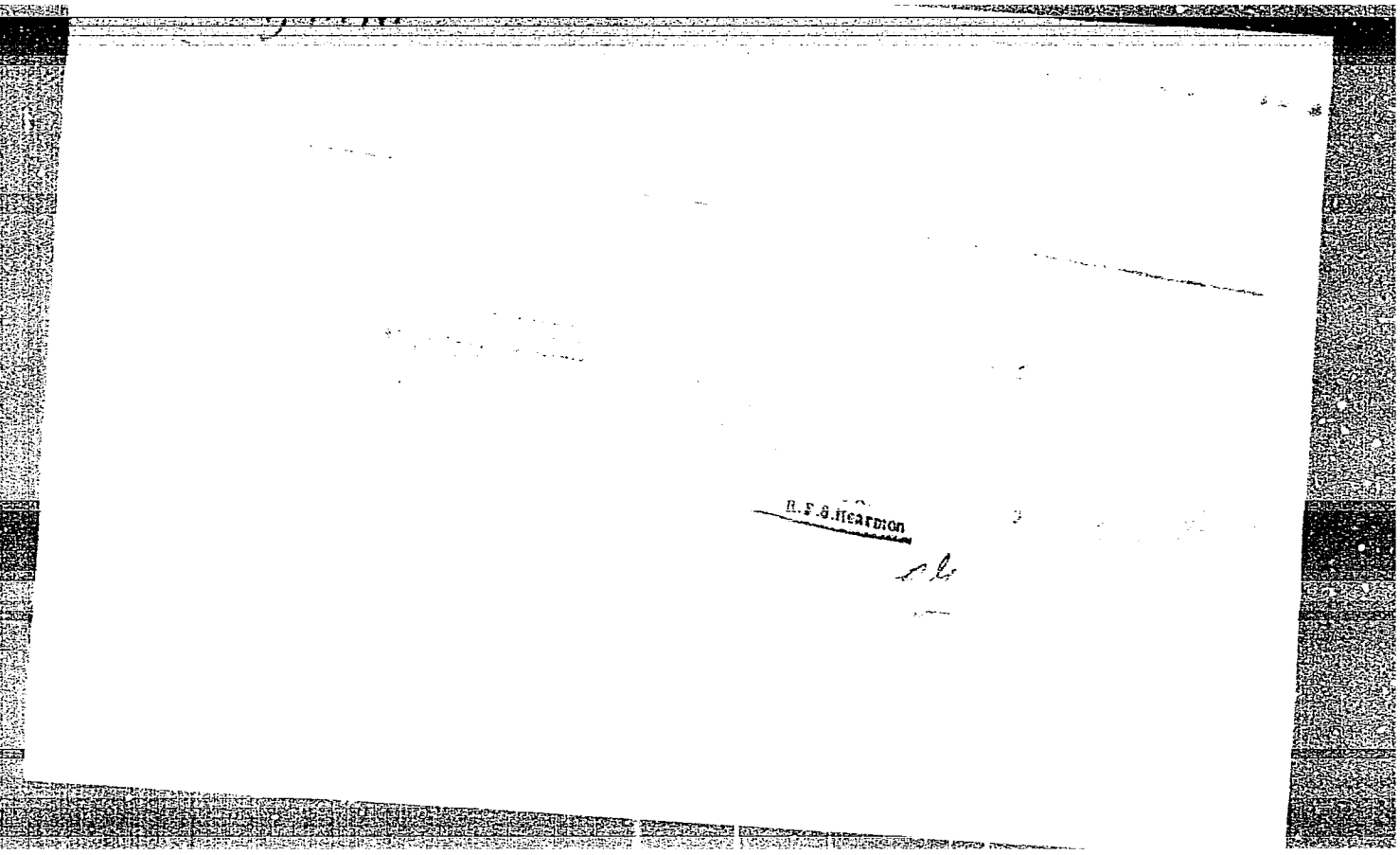
The results showed a decrease in the resonance absorption with increasing temperature, similar to that previously observed for Mg_2Sn. The probabilities for recoilless resonance absorption of the γ quanta and the widths of the absorption lines were determined for both compounds (Table). The results are interpreted on the basis of data concerning the structure and the nature of the chemical bond in these compounds. Tests were also made with $IrSn_2$-$PtSn_2$ alloys with 25, 50, and 70 mol.% $PtSn_2$. All three alloys gave single Mossbauer lines. Orig. art. has: 2 figures and 1 table.

Absorption probability (f') and width of resonant line (Γ), extrapolated to zero thickness

Compound	f'		Γ_{exp}, mm/sec	δ, mm/sec
	77° K	293° K		
$IrSn_2$	0,73±0,05	0,39±0,03	0,82±0,02	−0,05±0,02
$PtSn_2$	0,76±0,05	0,43±0,03	0,76±0,02	+0,35±0,02
Mg_2Sn	0,77±0,08	0,28±0,03	0,68±0,01	0,00

SUB CODE: 20/ SUBM DATE: 25May65/ ORIG REF: 003/ OTH REF: 004

Card 2/2 HW



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000928020(

AUTHOR: Kuz'min, R.N.

70-3-3-22/36

TITLE: An X-ray Structural Investigation of IrSb (Rentgenograficheskoye issledovaniye struktury IrSb)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 366 - 367 (USSR)

ABSTRACT: Powder photographs were taken of a specimen of IrSb with Cu radiation in an 11.4 cm dia powder camera. The material was made by heating the elements in a quartz tube to the softening point of the latter. The structure was of the NiAs type with $a=3.970 \pm 0.001$ KX, $c = 5.510 \pm 0.002$ KX with $c/a = 1.388$. $d_{obs.} = 13.5$ g/cc. $Z=2$. The space group is probably $C6/mmm = D^4_{6h}$ with Ir at $(0,0,0)$, $(0,0,1/2)$ and Sb at $\pm (1/3, 2/3, 1/4)$. The z parameter of the Sb cannot differ greatly from 1/4. A table of observed and calculated intensities is given. Acknowledgments to Prof. G.S. Zhdanov and N.N. Zhuravlev. There are 1 table and 2 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

Card 1/1

SUBMITTED: July 11, 1957

70-3-3-26/36

AUTHORS: Zhdanov, G.S., Zhuravlev, N.N., Kuz'min, R.N. and Soklakov, A.I.

TITLE: The Establishment by X-ray Crystallography of a New Compound Bi_3Rh in the System Bi-Rh (Rentgenograficheskoye ustanovleniye novogo soyedineniya Bi_3Rh v sisteme Bi-Rh)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 373 - 374 (USSR).

ABSTRACT: Bi_4Rh has been supposed to occur in three polymorphic modifications α, β and γ. Goniometric and X-ray observations have been made on β-Bi_4Rh. Its habit is identical with that of Bi_3Ni and its cell dimensions a=9.1, b=4.2, c=11.4 A are close to those of Bi_3Ni (a=8.875, b=4.115, c=11.477). Both have the space group Pnma = D_{2h}^{16}. $d_{obs.}$ = = 10.7 $\pm$ 0.2 gm/cm^3. gives Z nearly equal to 3 if the formula Bi_4Rh is used. It seems clear that the formula should be Bi_3Rh giving z=4 and powder photographs also confirm this resemblance to Bi_3Ni.

70-3-3-26/36

The Establishment by X-ray Crystallography of a New Compound Bi_3Rh in the System Bi-Rh

There are 7 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 11, 1957

Card 2/2

78-3-3-36/47

AUTHORS: Zhdanov, G. S. , Zhuravlev, N. N. , Kuz'min, R. N.

TITLE: An Investigation of the System Bi-Rh (Issledovaniye sistemy Bi-Rh)

PERIODICAL: Zhurnal Neorganicheskoy Khimii,1958,Vol.3, Nr 3, pp.750-754 (USSR)

ABSTRACT: By X-ray analysis some compounds of bismuth and rhodium, especially Bi_4Rh and Bi_2Rh were investigated. The crystals of β-Bi_4Rh and α-Bi_2Rh were investigated. The β-Bi_4Rh-crystals are rhombic and have the following lattice constants: $a = 11,4 \pm 0,2$ Å, $b = 9,0 \pm 0,2$ Å, $c = 4,2 \pm 0,1$ Å. The density of the crystals is $\sigma = 10,7 \pm 0,2$ g/cm^3.
The compound α-Bi_2Rh crystallizes in the monoclinic system with periods $a = 6,7$ Å, $b = 6,8$ Å, $c = 6,9$ Å.
The system CoSb was investigated at the same time and on the basis of X-ray analyses it was found that α-Bi_2Rh and $CoSb_2$ are isomorphous compounds. The crystals α-Bi_2Rh can be classified with the structural type of markasite. During the melt-

Card 1/2

An Investigation of the System Bi-Rh 78-3-3-36/47

ing of antimony with cobalt, rhodium and iridium crystals of $CoSb_2$, $RhSb_2$ and $IrSb_2$ were determined. These crystals have a monoclinic structure. The unit cells of the compounds $CoSb_2$, $RhSb_2$ and $IrSb_2$ were calculated by the roentgengonometric method.

$CoSb_2$: a = 6,5 Å, b = 6,5 Å, c = 6,5 Å, $\beta = 118 \pm 1$, $\delta = 8,3$ g/cm^3, Z = 4

$RhSb_2$: a = 6,6 Å, b = 6,5 Å, c = 6,7 Å, $\beta = 117 \pm 1$, $\sigma = 9,0$ g/cm^3, Z = 4

$IrSb_2$: a = 6,6 Å, b = 6,5 Å, c = 6,7 Å, $\beta = 116 \pm 1$, $\sigma = 10,85$ g/cm^3, Z = 4

$B_{12}Rh$: a = 6,7 Å, b = 6,8 Å, c = 6,9 Å, $\beta = 117 \pm 2$, $\sigma = 12$ g/cm^3, Z = 4

A new group of isomorphous compounds $CoSb_2$, α-RhSb, $IrSb_2$ and α-Bi_2Rh was produced. There are 5 figures, 1 table, and 12 references, 11 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvenny universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 25, 1957

Card 2/2

24(6)

AUTHORS: Zhuravlev, N.N., Pak Gvan O., Kuz'min, R.N. SOV/55-58-5-13/34

TITLE: Investigation of the Antimony-Rhodium Alloys (Issledovaniye splavov sur'my s rodiyem)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 5, pp 79 - 82 (USSR)

ABSTRACT: It was stated that there result three combinations when melting together antimony and rhodium: $RhSb_3$, $RhSb_2$, RhSb. $RhSb_2$ crystallizes in the monoclinic syngony with the periods $a = 6.6 \pm 0.2$ Å, $b = 6.4 \pm 0.2$ Å, $c = 6.7 \pm 0.2$ Å and $\beta = 117^\circ \pm 1^\circ$. The elementary cell contains 8 antimony- and 4 rhodium atoms. The space group is C_{2h}^5 ($P2_{1/c}$). The authors use the densities of Rh and Sb according to M.P. Slavinskiy [Ref 11] and crystallographic dates of N.Ye. Alekseyevskiy.

Card 1/2

Investigation of the Antimony - Rhodium Alloys SOV/55-58-5-13/34

There are 3 figures, 1 table, and 12 references, 11 of which are Soviet, and 1 is German.

ASSOCIATION: Kafedra fiziki tverdogo tela (Chair of Physics of Solid Body)

SUBMITTED: April 12, 1958

Card 2/2

Kuz'min, R.N.

82001
S/120/60/000/03/041/055
E032/E514

21.3200

AUTHORS: Zimelev, A. G. and Kuz'min, R. N.

TITLE: Preparation of Zr-D Targets on a Copper Base

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 139-141

ABSTRACT: The zirconium targets[19] were prepared using the arrangement of ribbons shown in Fig 1. The innermost ribbon in this figure is in the form of a copper ring, the next is a zirconium foil tightly pressed against the copper and the outer ribbon is made of tantalum. The zirconium ribbon was 8 to 100 μ thick. Owing to the difference in the expansion coefficients of copper, zirconium and tantalum, the zirconium ribbon was tightly pressed against the copper ring. By passing a large current through the outer two ribbons, the zirconium foil could be welded to the copper (700 to 800°C, 0.5 to 3 hours). The zirconium deposit obtained in this way was then saturated with deuterium by passing deuterium gas over it. The best results were obtained at 600°C, 150 mm Hg. Zirconium deposits 18.7 μ thick could be saturated with deuterium to a concentration of about 1.64 atoms of

Card 1/2

82001

S/120/60/000/03/041/055
E032/E514

Preparation of Zr-D Targets on a Copper Base

deuterium per zirconium atom in about 20 min.
There are 2 figures, 1 table and 6 references, 2 of
which are Soviet and 4 English.

SUBMITTED: April 18, 1959

Card 2/2

KUZ'MIN, R.N.; ZHURAVLEV, N.N.; LOSIYEVSKAYA, S.A.

Atomic structure of $RuSb_2$ and $OsSb_2$. Kristallografiia 5 no.2:218-223 Mr-Ap '60. (MIRA 13:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Rubidium antimonide) (Osmium antimonide)

18.1290
5.2610

82594
S/070/60/005/004/004/012
E132/E360

AUTHORS: Zhuravlev, N.N., Zhdanov, G.S. and Kuz'min, R.N.

TITLE: The Atomic Structure of Certain Compounds of Bismuth and Antimony

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 4, pp. 553 - 562

TEXT: 1) Alloys of Bi and Sb with alkali and alkaline earth metals.
Bi-Rb[27] has a diagram of state like that of Bi-K. There are two compounds Bi_2Rb and $BiRb_3$ which give maxima in the liquidus. There are probably two other compounds Bi_2Rb_3 and $BiRb_2$ formed in peritectic reactions. The first-mentioned compound Bi_2Rb is superconducting and has the Cu_2Ng structure. The semiconducting compound $BiRb_3$ is hexagonal with a = 6.42, c = 11.46 Å and has the $AsNa_3$ structure.
Bi-Cs[27] shows two compounds Bi_2Cs and $BiCs_3$. $BiCs_2$ is formed in a peritectic reaction. Bi_2Cs is superconducting with the Cu_2Mg

Card 1/4

82504

S/070/60/005/004/004/012
E132/E360

The Atomic Structure of Certain Compounds of Bismuth and Antimony

structure. $BiCs_3$ is semiconducting and has the $SbCs_3$ structure (cubic) with $a = 9.324$ Å. For the Bi_2K, Bi_2Rb, Bi_2Cs series increasing cell size is linearly accompanied by increasing T_k (temperature of onset of superconductivity).

Sb-Rb SbRb has a complex structure and $SbRb_3$ is isomorpouns with $BiRb_3$ and has $a = 6.29$, $c = 11.17$ Å.

Bi-Sr and Bi-Ba. The former is cubic, Cu_3Au type, with $a = 5.042$ Å and the latter is tetragonal with $a = 5.188$ and $c = 5.157$ Å but is isostructural.

Bi-Rh 2) Alloys of Bi with group 8 transition metals. The compounds Bi_2Rh, BiRh and α, β and γ- Bi_4Rh appear to exist but "β-Bi_4Rh" has an orthorhombic cell ($a = 11.52$, $b = 9.03$, $c = 4.24$ Å) and a structure apparently analogous to Bi_3Ni. The composition is therefore probably Bi_3Rh.

Card 2/4

S/070/60/005/004/004/012
E132/E360

The Atomic Structure of Certain Compounds of Bismuth and Antimony

α-Bi_2Rh was reported isomorphous with Sb_2Co but this is uncertain.

Bi-Pd The phase diagram is largely known (Zh. Eks. Teor.Fiz., 32, 1305, 1957). The γ-phase near 50% by wt. Pd is hexagonal with a = 7.76, c = 5.86 Å and appears to be a superstructure of NiAs. Below 400 °C there is a eutectic decay to BiPd and $BiPd_3$. It may be Bi_3Pd_5.

Bi-Pt The phase diagram is known. There are the phases α- and β-Bi_2Pt and BiPt. Various differences in the value of T_k reported for BiPt are explained by the possibility of obtaining this compound in a defect state giving a 0.8% volume decrease in the unit cell.

No Bi-rich alloys of Ru, Os and Ir could be prepared.

3) Alloys of Sb with transition metals of group 8.

Sb-Co Besides Sb_2Co and SbCo a new compound Sb_3Co with a cubic As_3Co structure has been found.

82504
S/070/60/005/004/004/012
E132/E360

The Atomic Structure of Certain Compounds of Bismuth and Antimony

Sb-Rh. Three compounds have been found in this system and the general lines of the phase diagram are apparent.
Sb-Ir. The existence of Sb_3Ir, Sb_2Ir and SbIr have been established. Sb_3Co, Sb_3Rh and Sb_3Ir are isomorphous. The structures of Sb_2Co, Sb_2Rh and Sb_2Ir are isomorphous and similar to that of α-Bi_2Rh. Such isomorphism does not pertain in the Sb_2M series. The superconducting transition temperatures of the various materials are tabulated and discussed in terms of their cell sizes.
There are 5 figures, 7 tables and 36 references: 5 English, 5 German and 26 Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University im. M.V. Lomonosov)

SUBMITTED: February 23, 1960

Card 4/4

87803

S/070/60/005/006/001/009
E132/E360

24,2140 (1072, 1158, 1160)

AUTHORS: Kuz'min, R.N., and Zhdanov, G.S.

TITLE: X-ray Structure Analysis of the Superconducting Compound β-Bi_3Rh

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 6, pp. 869 - 876

TEXT: There are three compounds in the Bi-Rh system: Bi_4Rh with three modifications (low temperature α, intermediate temperature β and high temperature γ); Bi_2Rh has two modifications, α and β; BiRh has only one form. Crystals of β-Bi_3Rh were obtained as needles very suitable for X-ray analysis by pouring of the liquid from a partly solidified melt. The crystals were orthorhombic with $a = 9.027 \pm 0.006$ Å, $b = 4.24 \pm 0.02$, $c = 11.522 \pm 0.008$, $d_{obs} = 10.7$ g/cm^3, $d_{calc} = 11.0$, $Z = 4$.

Card1/3

67803
S/070/60/005/006/001/009
E132/E360

X-ray Structure Analysis of the Super conducting Compound β-Bi_3Rh

The space group might be Pnma or Pn2a . Using Patterson projections a trial set of atomic positions was derived and an a-c Fourier projection was calculated. The final atomic positions are (x,y,z) :- Bi_I (0.402, 0.25, 0.180); Bi_{II} (0.102, 0.75, 0.089); Bi_{III} (0.201, 0.75, 0.386); Rh (0.402, 0.75, 0.018) . The R-factor for the hoℓ zone is 19.8% neglecting any temperature factor. It is concluded that the space group must be Pnma = D_{2h}^{16} . The general similarity of this compound with Bi_3Ni suggests that the structure proposed for the latter is probably correct. The coordination polyhedra round the three Bi atoms are different. Bi_I has 12 neighbours.

Card 2/3

67803

S/070/60/005/006/001/009
E132/E360

X-ray Structure Analysis of the Superconducting Compound β-Bi_3Rh

Bi_{II} 11 and Bi_{III} 12 . The coordination number of the Rh atom is 9 and the Rh atoms lie in seven-cornered polyhedra and occur in zig-zag chains. The shortest distance between Bi atoms is 3.48 Å . Acknowledgments are made to N.N. Zhuravlev, I.S. Berezin and B.M. Shchedrin. There are 7 figures, 4 tables and 11 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: April 8, 1960

Card 3/3

KUZ'MIN, R.N.; ZHURAVLEV, N.N.

Problem of achieving greater accuracy in the constitution diagram for the system Bi- Rh. Kristallografiia 6 no.2:269-271 Mr-Ap '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Bismuth-rhodium alloys) (Radiography)

KUZ'MIN, R.N.

Device for filling a vessel with liquid for hydrostatic weighing of powders. Prib.i tekh.eksp. 6 no.5:192 S-O '61. (MIRA 14:10)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.
(Specific gravity--Measurement)

S/070/61/006/006/002/008
E132/E135

AUTHORS: Zhdanov, G.S., and Kuz'min, R.N.

TITLE: The structures of the compounds of the isomorphous group MSb_2, namely: $CoSb_2$, $RhSb_2$, $IrSb_2$ and α-$RhBi_2$

PERIODICAL: Kristallografiya, v.6, no.6, 1961, 872-881

TEXT: By X-ray single-crystal methods the structures of the above compounds have been determined. The dimensions of the unit cells were found to be as shown in Table 1, and the atomic parameters (space group $P2_1/c$ - arsenopyrite structure) as shown in Table 4. The probable errors in the atomic parameters are about 0.020. The metal atoms are each surrounded by six Sb atoms in a distorted octahedron. The Sb-atoms are 4-coordinated (in distorted tetrahedra) each by 3 metal atoms and one Sb atom. The interatomic distances of nearest and second nearest neighbours are listed. I.M. Rumanova and B.K. Vaynshteyn are mentioned in the article.
There are 6 figures, 5 tables and 21 references: 13 Soviet-bloc and 8 non-Soviet-bloc. The four most recent English language references read as follows:

Card 1/4 2

The structures of the compounds of ... S/070/61/006/006/002/008
E132/E135

Ref.8: D. Harker, J.S. Kasper. Acta crystallogr., Vol.1, 70-75, 1948.
Ref.10: W.H. Zachariasen. Acta crystallogr., 5, 68-73, 1952.
Ref.14: W. Cochran, M. Woolfson. Acta crystallogr., 8, 1-12, 1955.
Ref.18: T. Rosengvist. Acta Metallurgica, Vol.1, 6, 761-763, 1953.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: September 4, 1961

Card 2/2

S/078/62/007/002/012/019
B145/B110

AUTHOR: Kuz'min, R. N.

TITLE: Use of the temperature gradient for studying phase diagrams

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 2, 1962, 407 - 411

TEXT: A survey is presented of the temperature gradient method for studying phase diagrams giving its advantages - continuous phase changes as a function of temperature, short duration of the test, small number of samples, small material requirement - as compared to other indirect methods of determining states at high temperature. For sample preparation from metals difficult to work the melt was either sucked into quartz- or porcelain capillaries (diameter 1-2 mm) by means of a medical syringe, or pressed in by means of an inert gas. The determination of the transition temperature of $(PtBi_2)_\alpha \rightleftarrows (PtBi_2)_\beta$ (temperature drop 400°C, length of section investigated, 110 mm) is given as an example for the application of the gradient method. The microscopic examination yielded $T_{\alpha,\beta} = 410°C$ at 10% by weight of Pt, in agreement with the phase diagram. Mention is made of

Card 1/2

S. A. Vekshinskiy, and M. G. Lozinskiy. G. S. Zhdanov is thanked for the discussion. There are 7 figures and 11 references: 9 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: W. Rosenhain. J. Inst. Metalls., 13, 160 (1915); 42, 31 (1929), J. B. Newkirk. Rev. Sci., Inst., 24, 1116 (1953). √

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova Fizicheskiy fakultet Kafedra fiziki tverdogo tela (Moscow State University imeni M. V. Lomonosov, Physical Division, Department of Solid-State Physics)

SUBMITTED: December 24, 1960

KUZ'MIN, R.N.

Simplified method of allowing for absorption and the temperature factor in formulas describing the intensities of X-ray interferences.
Kristallografiia 7 no.5:785-787 S-O '62. (MIRA 15:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(X-ray crystallography)

KUZ'MIN, R. N.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Institute of Crystallography in 1962:

"Investigation of Atomic Crystalline Structure and Phase State of Alloys of Bi with Ph, and of Arsenic with Ir, Ru, and Os."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

KUZ'MIN, R. N.

"Analiz elektricheskikh svoystv binarnykh sistem i soedineniy na osnove ikh edinoy klassifikatsii."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Moskovskiy gosudarstvennyy universitet im M. V. Lomonosov.

L 12811-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG
ACCESSION NR: AP3000780 S/0070/63/008/003/0453/0454

AUTHOR: Kuz'min, R. N.; Nikitina, S. V.

TITLE: Structure of compounds of rare-earth metals with antimony and bismuth having the composition AB

SOURCE: Kristallografiya, v. 8, no. 3, 1963, 453-454

TOPIC TAGS: semiconductor, superconductivity, rare earths, Sb, Bi, NaCl, covalent bond

ABSTRACT: This study was made to discover new compounds of these elements. The results add to the information of crystal chemistry of superconductivity in binary alloys. The compounds obtained represent NaCl structure, as indicated by a comparison of calculated and measured intensities on x-ray photographs. The interatomic distances suggest the presence of a mixed ionic-covalent chemical bond. In view of this and of the results in general, the authors conclude that superconductivity should not appear in compounds of rare earths with Sb and Bi in which the compositional formula is AB. The presence of covalent bonds suggests that the compounds are semiconductors, and the preservation of NaCl structure makes them important subjects of investigation relative to their electrical and magnetic properties. Orig. art. has: 1 table.

Card 1/2 Moscow St. Un.

L 17427-63 EWP(q)/EWT(m)/BDS AFITC/ASD JD/JG

ACCESSION NR: AP3004348 S/0078/63/008/008/1906/1914

AUTHORS: Kuz'min, R. N.; Zhuravlev, N. N.; Zhdanov, G. S. 58 57

TITLE: Thermal analysis of the system Rh-Bi

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 8, 1963, 1906-1914

TOPIC TAGS: DTA, Rh, Bi, differential thermal analysis, rhodium, bismuth

ABSTRACT: Differential thermal analysis has been conducted for the first time in Rh-Bi equilibrium systems. An equilibrium diagram has been constructed for the above system, starting with pure Bi and ending with a 22.5 weight % of Rh in the system. Rh-Bi thermograms were taken after the alloy had been homogeneously heated for 48 hours at 720C. The only effects shown in the heating curves are the ones corresponding to the eutectic transformation, reaction of $RhBi_4$ formation, and the polymorphic transformation $\alpha \rightleftarrows \beta$-$RhBi_2$. The differential effect corresponding to the eutectic transformation disappears completely when the

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L 17427-63

ACCESSION NR: AP3004348

Rh content is 10.5 weight %. At 11.0 weight % of Rh, the polymorphic effect of transformation $\alpha \rightleftarrows \beta$-$RhBi_2$ is noted. This effect increases with an increase of Rh content. Authors concluded that a $RhBi_4$ compound exists. Orig. art. has: 11 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet, Fizicheskiy fakul'tet, Kafedra fiziki tverdogo tela (Moscow State University, Division of Physics, Department of Solid State Physics)

SUBMITTED: 26Jun62 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: CH, EL NO REF SOV: 022 OTHER: 001

Card 2/2

KUZ'MIN, R.N.; ZHURAVLEV, N.N.

Phase diagram of the system Rh - Sb. Vest. Mosk. un. Ser. 3: Fiz., astron. 18 no.2:9-14 Mr-Ap '63. (MIRA 16:6)

1. Kafedra fiziki tverdogo tela Moskovskogo universiteta.
(Rhodium-antimony alloys)
(Phase rule and equilibrium)

ACCESSION NR: AP4012533 S/0056/64/046/001/0137/0141

AUTHORS: Bryukhanov, V. A.; Delyagin, N. N.; Kuz'min, R. N.

TITLE: Resonance absorption of gamma quanta in magnesium stannide. 23.8-keV absorption line with natural line width

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 137-141

TOPIC TAGS: Mossbauer effect, photon absorption, resonance photon absorption, magnesium stannide, recoilless gamma quantum absorption, magnesium stannide chemical bond, recoilless resonance absorption probability, tin 119, absorption line, absorption line width, natural line width

ABSTRACT: Continuing earlier Mossbauer-effect studies of tin oxides (ZhETF v. 40, 713, 1961 and v. 43, 432, 1962), the authors investigated resonance absorption of 23.8-keV gamma quanta by Sn^{119} nuclei over a temperature range from 77 to 290K in Mg_2Sn, which has a struc-

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ACCESSION NR: AP4012533

ture of high symmetry, so that the electric field gradient at the tin nucleus should be zero. The experiments were also aimed at finding a source of 23.8-keV gamma rays with natural line width. The probability of recoilless absorption of the gamma quanta was found to be 0.77 and 0.28 at 77K and at room temperature, respectively. The width obtained for the absorption line in Mg_2Sn was 0.32 ± 0.02 mm/sec, which agrees well with the value obtained from the lifetime of the 23.8 keV excited state. In view of the predominant role played in Mg_2Sn by the interaction between the tin and magnesium atoms, the contribution of the optical vibration is considerably reduced for the heavy tin nucleus. In this connection, interest is attached to the study of compounds with structure isomorphic to fluorite ($PtSn_2$ or $IrSb_2$), with metallic bonds, where an increased effect of the optical vibrations for the tin atoms is expected. "The authors thank Yu. Kagan for interesting discussions of

Card 2/3

ACCESSION NR: AP4012533

the results." Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Institute, Moscow State University)

SUBMITTED: 18Jul63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 007 OTHER: 003

Card 3/3

ACCESSION NR: AP4042558 S/0056/64/046/006/1996/2002

AUTHORS: Bryukhanov, V. A.; Delyagin, N. N.; Kuz'min, R. N.; Shpinel', V. S.

TITLE: Mossbauer effect in binary compounds of tin

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 1996-2002

TOPIC TAGS: Mossbauer effect, tin, tin compound, resonance absorption, phonon, lattice parameter, lattice constant

ABSTRACT: To provide a simple interpretation of the decrease of the effective Debye temperature Θ, which is used to characterize the probability of the Mossbauer effect, with decreasing temperature, in analogy with the explanation of the increase in Θ with decreasing temperature presented by the authors earlier (ZhETF v. 40, 713, 1961), the authors investigated resonance absorption of γ radiation by Sn^{119} nuclei in the binary compounds SnAs, SnSb, SnTe, and SnPt over a

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ACCESSION NR: AP4042558

wide range of temperatures. A simple model of the phonon spectrum, constructed by superposing the Debye and the Einstein spectra, was used in the analysis. The probability of recoil-free absorption and its temperature dependence for all four compounds cannot be described by a single parameter in the Debye approximation. This result is attributed to the influence of the optical branches of the phonon spectrum. The measurements of the absorption line widths, quadrupole interactions, and chemical isomeric shifts are used to analyze the properties of the chemical bonds and the structures of the investigated compounds. The structure and parameters of the lattices were determined by x-ray analysis. Although the experimental results agreed qualitatively with the model, there was no quantitative agreement and the observed temperature dependence of Θ exceeded the predictions based on the considered phonon-spectrum model. "The authors thank A. I. Firov for his assistance." Orig. art. has: 3 figures, 3 formulas and 1 table.

Card 2/5

ACCESSION NR: AP4042558

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Institute, Moscow State University)

SUBMITTED: 17Jan64 DATE ACQ: ENCL: 02

SUB CODE: SS, NP NR REF SOV: 007 OTHER: 001

Card 3/5

ACCESSION NR: AP4042558

ENCLOSURE: 01

Principal characteristics of the Mossbauer effect

Соединение 1	Γ_a, мм/сек 2	δ, мм/сек		f'		θ, °K	
		77° K	200° K	77° K	200° K	77	220
SnAs	0,34±0,02	0,67±0,03	0,62±0,02	0,50±0,05	0,20±0,02	145±15	180±10
SnSb	0,42±0,04	0,80±0,03	0,76±0,03	0,31±0,03	0,084±0,005	110±6	144±3
SnTe	0,36±0,03	1,51±0,02	1,43±0,03	0,37±0,03	0,070±0,000	120±5	139±3
SnPt	—	−0,22±0,02	−0,30±0,02	0,50±0,06	0,30±0,04	145±15	210±10

1 - Compound, 2 - mm/sec

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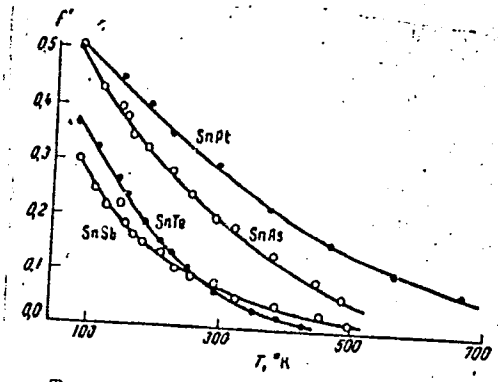
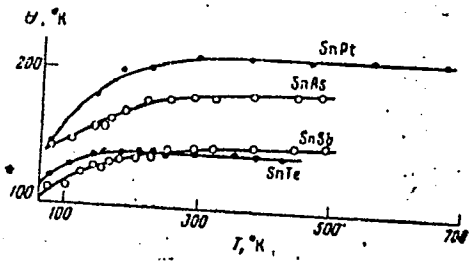
ACCESSION NR: AP4042558

ENCLOSURE: 02





Temperature dependence of recoilless absorption probability (left) and of the effective Debye temperature for the compounds SnAs, SnSb, SnTe, and SnPt

Card 5/5

ACCESSION NR: AP5004380 S/0056/65/048/001/0103/0105

TITLE: Investigation of the Mossbauer effect in Pd-Sn alloys

... resonant absorption, ...

... system, ...

... chemical shift ...

Card 1/2

ACCESSION NR: AP5004380

Orig. art. has: 1 figure.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: [illegible] ENCL: [illegible] SUB CODE: MP

NR REF SOV: 007 OTHER: 001

ZHDANOV, G.S.; LOMONOV, N.S.; KUZ'MIN, R.N.

Mössbauer effect used in the study of chemical bonds in metals and alloys. Izv.AN SSSR.Neorg.mat. 1 no.10:1660-1672 O '65. (MIRA 18:12)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova. Submitted July 5, 1965.

IBRAIMOV, N.S.; KUZ'MIN, R.N.; ZHDANOV, G.S.

The Mössbauer effect in compounds of a fluorite type structure ($IrSn_2$ and $PtSn_2$). Zhur.eksp. i teor.fiz. 49 no.5:1389-1393 N '65. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet.

L 23747-66 EWT(1)/EWT(m)/EWA(d)/EWP(t) IJP(c) JD/JG
ACC NR: AP6007212 SOURCE CODE: UR/0056/66/050/002/0330/0338

AUTHORS: Kuz'min, R. N.; Ibraimov, N S.; Zhdanov, G. S.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Mossbauer effect in Heusler alloys

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 2, 1966, 330-338

TOPIC TAGS: Mossbauer spectrum, absorption spectrum, ternary alloy, line shift, heat effect, line splitting, alloy phase diagram

ABSTRACT: The authors investigated the Mossbauer absorption spectra of ternary Heusler alloys namely Co_2MnSn, Ni_2MnSn, Cu_2MnSn, Cu_2FeSn, Cu_2CoSn, and Cu_2NiSn, using Sn^{119} as the Mossbauer isotope. The samples were synthesized in quartz ampoules in vacuum from components in stoichiometric ratio. The Mossbauer spectra were recorded with apparatus in which the absorber moved at a constant velocity, using a Mg_2Sn source. The absorbers had the same thickness with respect to

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tin as the source (15 mg/cm^2) and were made of powders of beryllium dioxide alloys. The source and the absorbers were kept at 77K. Two different heat treatments were used -- quenching after annealing, and annealing followed by slow cooling. The Mossbauer lines and the chemical shifts of the different compounds are described briefly. The results show that the Mossbauer spectrum is sensitive to the heat treatment. The most interesting Mossbauer spectrum was obtained for Cu_2MnSn after quenching, since the Mossbauer line was split into nine components of almost equal intensity, instead of the six allowed by the splitting of the nuclear levels of Sn^{115} in a magnetic field. This anomaly in the spectrum may be due to a disordered distribution of the tin atoms in the nonequivalent positions in the structure of this compound. The internal magnetic field at the tin nucleus was determined for the compounds Co_2MnSn and Ni_2MnSn and found to be 42.0 and 70.5 kOe, respectively. The results are compared with those obtained by others and the causes for the differences discussed. It is noted in the conclusion that although the Mossbauer data yield much valuable information on the structure, properties, and phase transitions of Heusler alloys, in some cases the spectrum structure is too

L 23747-66

ACC NR: AP6007212

complicated to be able to obtain quantitative results, so that the Mossbauer method must be used in conjunction with other methods. Orig. art. has: 5 figures and 3 tables.

SUB CODE: 20/ SUBM DATE: 03Aug65/ ORIG REF: 008/ OTH REF: 013

Card 3/3 UCR

L 30744-66 EWT(l)/EWT(m)/EWP(t)/EWP(b)/EWT(v)/EWT(t)/EWT(l)/ETI IJP(c)

ACC NR: AT6014763 GD/JD SOURCE CODE: UR/0000/65/000/000/0123/0129

AUTHORS: Zhdanov, G. S.; Ibraimov, N. S.; Kuz'min, R. N.

ORG: none

TITLE: Application of the Mössbauer effect to the investigation of superconducting alloys

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. 1st, 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 123-129

TOPIC TAGS: superconducting alloy, Mössbauer effect, chemical bonding, tin, isomorphism, hyperfine structure

ABSTRACT: A survey is made of the various applications of the Mössbauer effect to the study of superconducting alloys. The method of determining the type of chemical bond is discussed by using the isomorphic shift of Mössbauer lines, or

$$\delta = E_a - E_e \sim A\,[R_u - R_0]\,[|\Psi_a(0)|^2 - |\Psi_e(0)|^2].$$

For white tin the $|\Psi_{5s}(0)|^2$ versus δ curve is used to obtain the effective number of s-electrons, quantitatively. Then, utilizing the fact that superconductivity is connected with phonon-electron interactions in a crystal, the Mössbauer effect is used to determine f where

$$f(0, T) = \exp - \left(\frac{E_0^2}{2Mc^2} \cdot \frac{3}{2k\Theta}\right).$$

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L 38541-66
ACC NR: AT6014763

If f is determined experimentally for a metal in both normal and superconducting states, the Debye temperatures before and after transition can be directly compared. This, however, is shown to be a very sensitive experiment and is very difficult to perform. Finally, the possibility is investigated for using the Mossbauer effect to serve as a low-temperature thermometer. This could be done by observing the splitting of the ^{57}Fe ground level into two sublevels for which a unique temperature can be determined. Once more, it is stressed that because of small magnetic moments the phenomenon of splitting is small and the experiment very sensitive to noise. Orig. art. has: 6 figures and 3 formulas.

SUB CODE: 20, 11/ SUBM DATE: 23Dec65/ ORIG REF: 003/ OTH REF: 012

Card 2/2

L 09459-67 EWT(1)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6024664 SOURCE CODE: UR/0070/66/011/004/0511/0519

AUTHOR: Kuz'min, R. N.; Kolpakov, A. V.; Zhdanov, G. S.

ORIG: Moscow Stato University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Scattering of Mossbauer radiation by crystals

SOURCE: Kristallografiya, v. 11, no. 4, 1966, 511-519

TOPIC TAGS: Mossbauer effect, gamma scattering, atomic structure, crystal structure analysis

ABSTRACT: The authors present a theoretical analysis of the application of the Mossbauer effect, and especially resonant scattering of quanta by nuclei of atoms in a crystal, to the investigation of the atomic structure of crystals. The theory of the method is reviewed and it is shown how measurement of a sufficiently large number of reflections makes it possible to establish the crystallographic planes which contain Mossbauer atoms. The experimental data which can serve as a basis of structural analysis by the Mossbauer-atom method are reviewed. It is shown that the Mossbauer method combines the advantages of other structure-analysis methods and in addition has a greater flexibility. It also permits an analysis of complicated

Card 1/2 UDC: 548.7

L 09459-67
ACC NR: AP6024664

biological crystalline objects. Although there are still many experimental difficulties, it is concluded that there are grounds for assuming Mossbauer scattering and diffraction to take their place among other diffraction methods of structural analysis. Orig. art. has: 4 figures and 18 formulas.

SUB CODE: 20/ SUBM DATE: 14Sep65/ ORIG REF: 001/ OTH REF: 015

Card 2/2 LC

L 07113-67 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/HW/GG

ACC NR: AP6029107 SOURCE CODE: UR/0048/66/030/006/0957/0961

48
B

AUTHOR: Zhdanov,G.S.; Ibraimov,N.S.; Kuz'min,R.N.; Chechernikov,V.I.

ORG: Physics Department, Moscow State University im. M.V.Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: The Mossbauer effect in the intermetallic compounds $Co_{1,4}Sn$ and $Ni_{1,4}Sn$ [Report All-Union Conference on the Physics of Ferro-and Antiferromagnetism held 2-7 July 1965 in Sverdlovsk]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 6, 1966, 957-961

TOPIC TAGS: Mossbauer spectrum, Mossbauer effect, magnetic susceptibility, cobalt alloy, nickel allcy, intermetallic compound

ABSTRACT: The present study was undertaken in conjunction with the growing interest in nuclear resonance absorption in intermetallic compounds, in particular those containing ferromagnetic elements. Specifically, there was studied the Mossbauer effect in $Co_{1,4}Sn$ and $Ni_{1,4}Sn$. The compound specimens were prepared by vacuum melting of the components, followed by homogenizing anneal in sealed tubes (50 hours at about 800°C) and then slow cooling to room temperature. In the same manner there were prepared specimens of mixtures of the two above-mentioned compounds, i.e., representatives of the Co-Ni-Sn system. Among the last only samples with the NiAs structure were selected for the Mossbauer measurements. The Mossbauer effect was studied on the Sn^{119} nuclei

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in specimens with a "tin" thickness of 9 mg/cm^2. The source of the 23.8 keV gamma rays was a 5 mg/cm^2 thick sample of Mg_2Sn. The measurements were performed with the source at liquid nitrogen temperature. The Mossbauer spectra obtained for $Co_{1.4}Sn$ at different temperatures of the absorber and for a series of $Co_{1.4}Sn$-$Ni_{1.4}Sn$ solid solutions (0,9,25,50 and 100% $Co_{1.4}Sn$) are reproduced in figures. Also presented in graphics are the temperature dependences of the reciprocal susceptibility as obtained by the authors and taken from the literature (M.Asanuma, J.Phys.Japan, 17, 300, 1962); the agreement for $Co_{1.4}Sn$ is better than for $Ni_{1.4}Sn$. The temperature variation of the Mossbauer spectra shows that quadrupole splitting persists up to the temperature of the phase transition, that is, up to the temperature of the break in the reciprocal susceptibility versus temperature curve; above the transition point there is observed only the singlet Mossbauer line. The results are discussed briefly and reasons are hypothesized for the absence of ferromagnetism in the studied intermetallic compounds. Further investigations must be made before a full interpretation of the present results can be offered. Orig. art. has: 4 figures.

SUB CODE: 20,07 SUBM DATE: 00 ORIG. REF: 005 OTH REF: 004

Card 2/2

27105-66

ACC NR: AP6017406 SOURCE CODE: UR/0122/65/000/008/0040/0041

AUTHOR: Borisoglebskiy, A. I. (Engineer); Kuz'min, R. V. (Engineer); Vasil'yev, Yu. V. (Engineer)

ORG: none

TITLE: Stand for determining the frequency of the normal mode of a gas column in interstage compressor lines

SOURCE: Vestnik mashinostroyeniya, no. 8, 1965, 40-41

TOPIC TAGS: white noise, noise generator, noise analyzer, tape recorder, electronic amplifier/ZG-10 noise generator, MAG-8 tape recorder, UNCh 50W electronic amplifier, MIU electronic amplifier

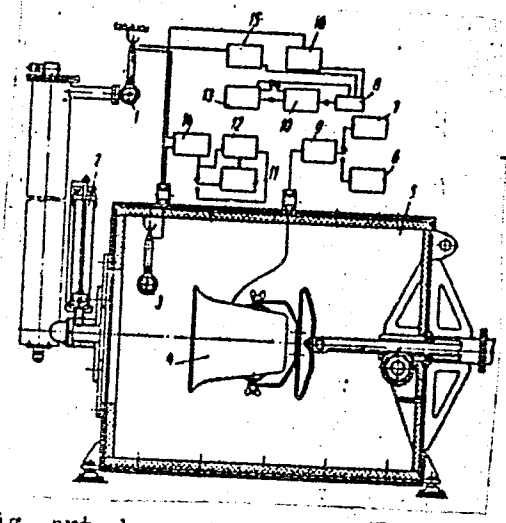
ABSTRACT: The frequency of natural oscillations of the gas column in interstage compressor lines is determined chiefly by the geometric characteristics of the lines and the volumes connected by them. Therefore an acoustic method may be used for determining this parameter. This requires excitation of acoustic vibrations by a special radiator placed at the end of one of the lines with receivers at various points on the line where the gas column is in oscillation. The authors describe a stand developed for this purpose.

UDC: 62-119:621.512.001.5

Card 1/2

27105-66

ACC NR: AP6017406

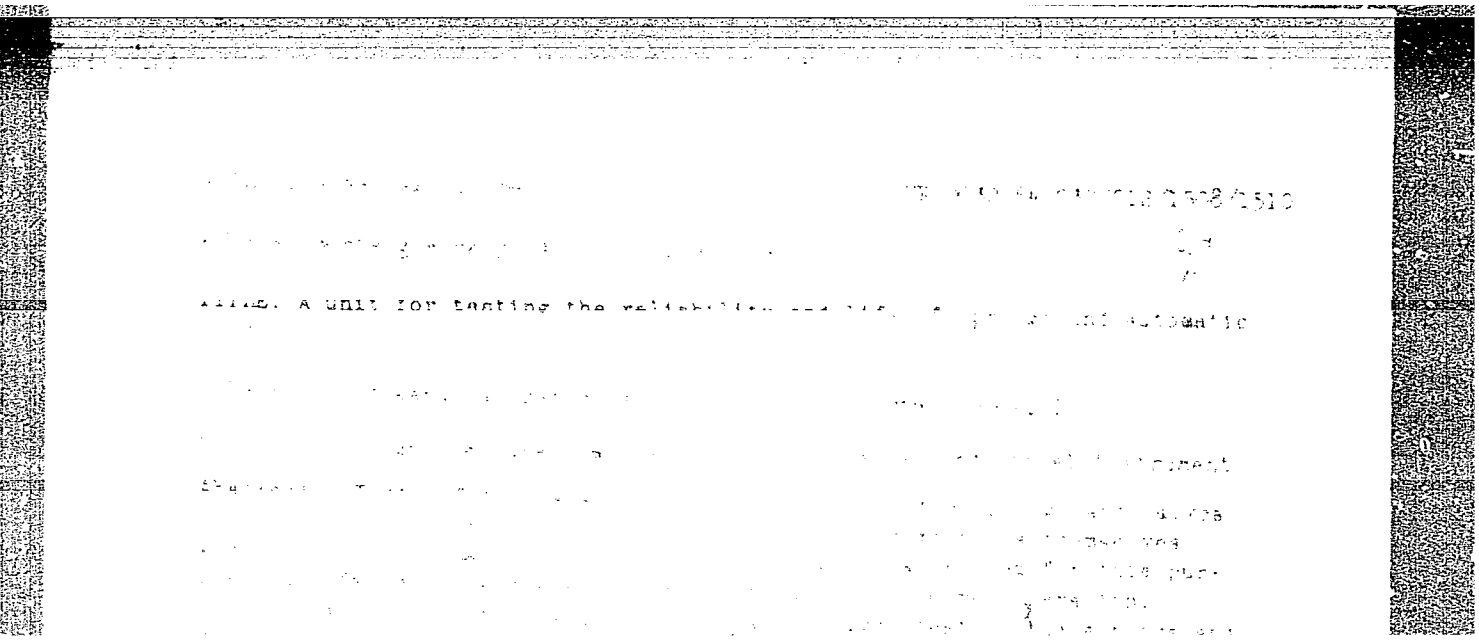


Stand for acoustic tests of interstage compressor lines in the 40-300 cps frequency range: 1 and 3--MD 36-B microphone; 2--buffer space; 4--dynamic loudspeaker; 5--sonic radiation chamber; 6--ZG-10 sound generator; 7--white noise generator or MAG-8 tape recorder; 8--UNCh 50 W amplifier; 10 and 11--automatic recorder; 12 and 13--analyzer; 14--MIU multichannel measurement amplifier; 15 and 16--phonometers.

Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2



being produced, to evaluate new designs and check against computed values.

BORISOGLEBSKIY, A.I., inzh.; KUZ'MIN, R.V., inzh.; VASIL'YEV, Yu.V., inzh.

Stand for determining the frequency of natural oscillations of a gas column in interstage communications of compressors. Vest.mashinostr. 45 no.8:40-41 Ag '65.

(MIRA 18:12)

VOZNITSKIY, Igor' Vital'yevich. Prinimali uchastiye: IVANOV, L.A., kand. tekhn.nauk; KUZ'MIN, B.V., inzh., ROZHANSKIY, G.S., kand.tekhn. nauk, retsenzent; DANILEVSKIY, V.V., dotsent, red.; ANDREYEVA, L.S., red.izd-va; LAVRENOVA, N.B., tekhn.red.

[Engines and power plants on modern trawlers] Dvigateli i silovye ustanovki sovremennykh ryboprom yslovykh sudov. Moskva, Izd-vo "Morskoi transport," 1959. 201 p. (MIRA 12:12)
(Trawls and trawling) (Marine engines)

KUZ'MIN, R.V.; LYUTOV, I.L.

Indirect evaluation of the technical conditions of a diesel engine by its vibration parameters. Inform. sbor. TSNIIMF no.68. Tekh. ekspl.mor.flota no.11:40-49 '61. (MIRA 15:9)
(Marine diesel engines—Vibrations)

KUZ'MIN, Richard Vasil'yevich; ZINCHENKO, V.I., kand. tekhn.nauk, retsenzent; DUAN, N.I., kand. tekhn. nauk, red.; LAPINA, Z.D., red.; KLAPTSOVA, T.F., tekhn. red.

[Acoustical method of detecting defects in marine engines] Akusticheskaia defektatsiia sudovykh mekhanizmov. Moskva, Izd-vo "Morskoi transport," 1962. 112 p. (MIRA 15:4)
(Marine engines--Defects) (Noise--Measurement)

L 26038-66 EWT(1)/FSS-2

ACC NR: AP5023332 (A) SOURCE CODE: UR/0317/65/000/003/0062/0063

AUTHOR: Kuz'min, S. (Major general of artillery; Hero of the Soviet Union)

ORG: None

TITLE: Appraisal of the state of armament

SOURCE: Tekhnika i vooruzheniye, no. 3, 1965, 62-63

TOPIC TAGS: ordnance, weapon

ABSTRACT: After outlining general aspects of the armament inspection and stressing the importance of keeping weapons and technical equipment in the state of operational readiness, the author discusses the problem of readiness ratings. Generally, it is recommended to check basic weapons in proportion of 50 to 100% in small sub-units and of 30 to 60 percent in larger units. This inspection percentage lies between 15 and 30% in case of technical equipment. The number of various units to be inspected is determined by a general inspection plan. The inspection is based upon two approaches. The first is to examine the state of technical operational readiness while the second is related to maintenance inspection. The readiness appraisal has preponderance over the

Card 1/2

L 26038-66

ACC NR: AP5023332

maintenance inspection. Each weapon and piece of equipment undergoing the inspection must properly be evaluated and the readiness and maintenance ratings must be assigned. The collected individual data are used for the further appraisal of the state of readiness and maintenance in combat branches of various arms (missiles, artillery, armored tanks, engineering, chemical ammunition and warfare, etc). The "excellent" rating is given for an excellent state of readiness and for a maintenance state which is rated not lower than "good". The "good" rating combines a good readiness and at least a satisfactory maintenance. The "satisfactory" mark is assigned when both readiness and maintenance ratings are satisfactory. If one of these two ratings is unsatisfactory the combined rating is also "unsatisfactory". The same procedure of inspection is applied to larger military formations.

SUB CODE: 19 / SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2

RASTYANNIKOV, Viktor Georgiyevich; KUZ'MIN, Stanislav Alekseyevich;
D'YAKOV, A.M., otv.red.; FEDYUSHOVA, V.N., red.izd-va; NOVICHKOVA,
N.D., tekhn.red.

[Economic problems of Pakistan] Problemy ekonomiki Pakistana.
Moskva, Izd-vo vostochnoi lit-ry, 1958. 214 p. (MIRA 12:2)
(Pakistan--Economic conditions)

KUZ'MIN, Stanislav Alekseyevich; D'YAKOV, A.M., otv.red.; LIOZNOV, A.G., red.izd-va; KRASNAYA, A.K., tekhn.red.

[Economic development of Pakistan and the foreign market] Ekonomicheskoe razvitie Pakistana i vneshnii rynok. Moskva, Izd-vo vostochnoi lit-ry, 1960. 90 p. (MIRA 13:8)
(Pakistan--Economic conditions) (Pakistan--Commerce)

MAL'TSOV, K.A., kand.tekhn.nauk; KUZ'MIN, S.A., inzh.

Construction and testing of a dam made with three-hinged arched chords. Energ. stroi. no.27:48-54 '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki im. Vedeneyeva.

(Dams)

MAL'TSOV, K.A., kand.tekhn.nauk; ANTONOV, S.S., inzh.; KUZ'MIN, S.A., inzh.

Ways to lower the costs of building arched dams. Gidr. stroi. 32 no.5:20-23 My '62. (MIRA 15:5)
(Dams)

CHICHKOV, V.M., inzh.;KUZ'MIN, S.F., inzh.

Burning milled peat under sectional heating boilers. Torf. prom. 35 no.5:27-31 '58. (MIRA 11:10)

1.Gosudarstvennyy institut po proyektirovaniyu zavodov torfyanoy promyshlennosti (for Kuz'min)
(Boilers) (Peat)

KUZ MIN, S.G.

YAKOVLEV, V.A.; KUZ'MIN, S.G.; RYBAKOV, P.A.; KORNYUSHIN, A.K.

Induction furnace using industrial frequency and equpped with a cylindrica cast-iron crucible for smelting aluminum alloys. Prom. energ. 14 no.1:39-40 Ja '59. (MIRA 12:1)
(Electric furnaces)

KUZ'MIN, S.I., professor.

Present state of the problem of calculating heat transfer in firing chambers. Sbor. LIIZHT no.149:122-132 '55. (MLRA 9:6)
(Locomotives--Fireboxes)

KUZMIN, S.I.

YERMOLAYEV, Aleksandr Aleksandrovich; KUZMIN, S.I., red.; ZABRODINA, A.A., tekhn.red.

[Theoretical foundation of heat engineering] Teoreticheskie osnovy teplotekhniki. Moskva, Gos. energ. izd-vo, 1957. 349 p. (MIRA 11:3)
(Heat engineering)

KUZMIN, S. I. (Eng.); FILIPPOV, I. I. (Eng.);

"Special Features of Casting Heat-Resistant Alloys by the Lost-Wax Process," (Metody polucheniya otlivok povyshennoy tochnosti (Methods of Making High-Precision Castings), Moscow, Mashgiz, 1958, 140 p.

PURPOSE: This book is intended for engineers and technicians at plants and institutes, as well as in research and planning organizations in all branches of the machine-building industry.

S/123/59/000/006/020/025
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 6, p. 221, # 21653

AUTHORS: Filippov, I. I., Kuz'min, S. I.

TITLE: Specific Features of Precision Casting of Heat Resistant Alloys

PERIODICAL: V sb.: Metody polucheniya otlivok povyshennoy tochnosti. Moscow, Mashgiz, 1958, pp. 93-99

TEXT: The authors consider the methods of preventing scab formation in precision casting of turbine blades of heat resistant alloys. The scabs of Al_2O_3, Cr_2O_3, and Ti_2O forming on the metal surface destroy, when getting into the mold, the compactness of the casting and deteriorate its mechanical properties. The overheating of the metal cast reduces the scab formation, but yields a crust and decreases the heat resistance of the alloys. The bottom casting system and the application of portion furnaces with filling up by the swinging method yield good results. The elimination of O_2 from the mold cavity and filling in with the metal in a neutral gas atmosphere is an effective mode of preventing scab forma-

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Kuz'min, S.I.

P.A.

S/147/59/000/04/020/020
E031/E413

AUTHOR: Zolotukhin, V.K.

TITLE: The Scientific-Technical Conference at Khar'kov Aviation Institute

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1959, Nr 4, pp 161-165 (USSR)

ABSTRACT: In May 1959, the 16th Conference of Professorial and Teaching Staff took place. At a plenary session the following reports were read: "The XXI Congress of the Communist Party of the Soviet Union on the Further Development of the Two Forms of Socialist Ownership" by N.N.Aleksandrov, Director of the Chair Marxism-Leninism; "The Contemporary State of Rocket Technology" by Docent, Candidate of Technical Sciences I.P.Goldayev; "Efforts to Produce the First Aircraft Wholly Manufactured in China" by Docent, Candidate of Technical Sciences S.I.Kuz'min. The work of the Conference continued in twelve sections.
Social Sciences Section. The following papers were read: "Contemporary Bourgeois Philosophy" by Senior Instructor S.I.Epshteyn; "Discussion on Trade Unions in the

KUZ'MIN, S.I., kand.tekhn.nauk; LEBEDYANSKAYA, N.D., kand.tekhn.nauk; ZAYTSEV, A.N., inzh.

Explosive forming of sheet materials. Izv.vys.ucheb.zav.; mashinostr. no.7:87-95 '60. (MIRA 13:11)

1. Khar'kovskiy aviatsionnyy institut.
(Sheet-metal work)

KUZ'MIN, S.I., prof.

Some formulae for calculating gas temperatures in the firebox. Sbor. LIIZHT no.168:242-250 '60. (MIRA 13:10)
(Furnaces)

PHASE I BOOK EXPLOITATION SOV/6018

Kuz'min, Sergey Il'ich, Candidate of Technical Sciences

Plavka i lit'ye zharoprochnykh splavov i staley v vakuume (Vacuum Smelting and Casting of Heat-Resistant Alloys and Steels) Moscow, Mashgiz, 1962. Errata slip inserted. 6500 copies printed.

Reviewer: S. P. Nestertsev, Engineer; Ed.: A. I. Sirotin, Engineer; Tech. Ed.: G. V. Smirnova; Managing Ed. for Literature on Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This book is intended for workmen and engineering personnel of precision casting shops and sections specializing in the vacuum melting and casting of heat-resistant alloys.

COVERAGE: The book deals with the latest industrial experience in the vacuum melting and investment casting of alloys and steels, and with the results of scientific research work relating to these processes. Principal types of vacuum induction furnaces used for this purpose and working practice with these furnaces are described. Problems of the selection and behavior of refractory

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materials of crucibles and molds under conditions of vacuum melting and pouring a r e also analyzed. Results of the study of the structure, properties, and chemical composition of nickel-base alloys melted and cast in vacuum or inert gas are presented. No personalities are mentioned. There are 43 references: 27 Soviet, 13 English, and 3 German.

TABLE OF CONTENTS:

KUZ'MIN, S. M.

"Determination of the Coefficient of Traction Load Irregularities of Electric Railroads," Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 9, 1941, Submitted 12 May 1941.

Report U-1530, 25 Oct 1951

KUZ'MIN, S. M.

KARANDEYEV, K.B.; KUZ'MIN, S.M., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor

[Methods of electric measurement; differential, bridge and compensating] Metody elektricheskikh izmerenii; differentsial'nye, mostovye i kompensatsionnye. Moskva, Gos.energ.izd-vo, 1952. 335 p. (MLRA 10:10)
(Electric measurements)

BEL'KIND, L.D., professor; SHATELEN, M.A., redaktor; KUZ'MIN, S.M., redaktor; SHEVCHENKO, G.N., tekhnicheskiy redaktor.

[Pavel Nikolaevich YAblochkov; works; documents; materials] Pavel Nikolaevich IAblochkov; trudy, dokumenty, materialy. Moskva, Izd-vo Akademii nauk SSSR, 1954. 463 p. (MLRA 8:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Shatelen). 2. Akademiya nauk SSSR.
(Electric engineering)

STAROSKOL'SKIY, A.A.; KUZ'MIN, S.N.; MAL'TSEV, N.D., retsenzent; AKSENOVA, I.I., red.; TRISHINA, L.A., tekhn. red.

[Chemical plants for dyeing and finishing processes]Khimicheskie stantsii krasil'no-otdelochnogo proizvodstva. Moskva, Rostekhizdat, 1962. 185 p. (MIRA 15:11)
(Dyes and dyeing--Apparatus) (Textile finishing)

GRIGOR'YEV, Aleksey Nikolayevich; ASLAMAZOV, Gevork Mikaelevich; KUZ'MIN, Sergey Pavlovich. Prinimal uchastiye: POLYAKH, B.S., SARANTSEV, Yu.S., red.; KHITROV, P.A., tekhn.red.

[Railroad tank cars; design, operation, and maintenance] Zheleznodorozhnye tsisterny; ustroistvo, ekspluatatsiia i remont. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 214 p. (MIRA 12:12)
(Tank cars)

KUZ'MIN, S.T.; CHERNOZHUKOV, N.I.

Using carbamide for removing paraffin from lubricating oils.
Izv. vys. ucheb. zav.; neft' i gaz no.1:111-117 '58. (MIRA 11:8)

1.Moskovskiy neftyanoy institut im. akad. I.M. Gubkina.
(Urea) (Paraffins) (Lubrication and lubricants)

SOV/65-58-10-3/15

AUTHORS: Kuz'min, S. T. and Chernozhukov, N. I.

TITLE: The Deparaffination of Lubricating Oils with Carbamide (K voprosu deparafinizatsii smazochnykh masel karbamidom)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 10, pp 12 - 16 (USSR)

ABSTRACT: By the interaction of carbamide with organic compounds, it is possible to separate normal paraffins from mixtures. The formation of complexes is due to the adsorption of paraffin hydrocarbons by the carbamide crystals. The authors investigated the influence of various solvents (methyl ethyl ketone, petroleum, alkylate, acetic acid, isopropyl alcohol, benzene and acetone) and of additives on the deparaffination of lubricants. Most satisfactory results were obtained when using methyl ethyl ketone and isopropyl alcohol. Methanol and normal heptane were most suitable as activators. The quality of the raw material influences the deparaffination process and very good results were obtained when using light oily fractions. Two treatments with carbamide suffice to separate the solid

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The Deparaffination of Lubricating Oils with Carbamide

hydrocarbons. The experiments were carried out on fractions boiling between 350 and 500°C of Tuymazy petroleum when using isopropyl alcohol as solvent. The deparaffination process consists of the following stages: the reaction between the carbamide and the distillate; the separation of the complex by filtration; the washing of the residue with the solvent; the decomposition of the complex and the separation of the solvent by distillation. 5 to 20% methanol, water and ethylene glycol were used as additives (Figs. 1, 2 and 3). The best results were achieved when using 9 to 10% methanol and 5 to 10% ethylene glycol. The influence of process temperatures was investigated between 60 to 25°C. The interaction of carbamide with solid hydrocarbons starts at temperatures above 40°C, and complex formation occurs at an initial temperature of 55°C; between 20 and 40°C deparaffination is minimal. Tests were also carried out when using 50 to 175% carbamide, and the separation of solid hydrocarbons was most satisfactory when using 100% carbamide. The length of the experiments varied between 10 to 90 minutes and the optimum time of mixing found to be 30 minutes. The degree of purity of the paraffin depends on the amount

The Deparaffination of Lubricating Oils with Carbamide

of the solvent used and on the number of washings. 96% pure paraffin was obtained when washing the samples twice and using 50% of the solvent. The authors also attempted to improve the solidification points of the lubricants by using 1% of the depressant AzNII (see Table). In this way the solidification points can be lowered to -25 to -30°C. The method of extractive crystallisation makes it possible to manufacture transformer oils with solidification points of -45 to -50°C and oily distillates of motor oils with solidification points of -9 to -10°C There are 3 Figures, 1 Table and 13 References: 4 Soviet, 8 English and 1 German.

ASSOCIATION: MNI im. Gubkina (MNI im. Gubkin)

KUZ'MIN, S.T.; CHERNOZHUKOV, N.I.

Dewaxing of lubricating oils with carbamide in the presence of isopropyl alcohol. Trudy MNI no.23:62-69 '58. (MIRA 12:1)
(Lubrication and lubricants) (Urea) (Isopropyl alcohol)

Kuzmin S.V.

32-8-45/61

AUTHOR GOKHSHTEYN, Ya. P., KUZMIN S.V., VOLKOV A.F., YANCHEVSKIY V.Ya.

TITLE Oscillographic Polarograph "Geokhi". (Ostsillograficheskiy polyarograf "Geokhi".- Russian)

PERIODICAL Zavodskaya Laboratoriya 1957, Vol 23, Nr 8, pp 988-992 (U.S.S.R.)

ABSTRACT A new highly sensitive device for carrying out analyses is concerned here. The experiments of the quantitative determinations of small contents of Bi, Sb, Cd, and Pb at high content of uranium are given as examples. The radiotechnical scheme of the apparatus is given here which shows that to the main part of the apparatus there belongs the generator scheme with two tubes, a pentode with reversed negative binding in the cathode; in the wiring circuit of the second stage there is potentiometer which regulates the amplitude of the saw-tooth-like oscillations which are then recorded by the generator by means of a capacitor. The next tube (3) has an oscillation limiter the treshold of which is regulated by an alternating resistance. The oscillations are received by the next tube (4) which has an electrolytical cell and a cathode repeater, after which they are transmitted to the next tube (8) with the cascade

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